

**CULTURAL RESOURCES SURVEY OF THE
CHESTERFIELD MINE TRACT,
CHESTERFIELD COUNTY, SOUTH CAROLINA**



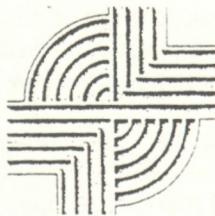
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CHICORA RESEARCH CONTRIBUTION 346

CULTURAL RESOURCES SURVEY OF THE CHESTERFIELD MINE TRACT, CHESTERFIELD COUNTY, SOUTH CAROLINA

Prepared By:
Michael Trinkley, Ph.D., RPA
and
Nicole Southerland

CHICORA RESEARCH CONTRIBUTION 346



Chicora Foundation, Inc.
PO Box 8664
Columbia, SC 29202-8664
803/787-6910
Email: chicora@bellsouth.net
www.chicora.org

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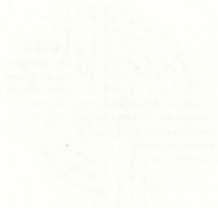
CULTURAL RESOURCES SURVEY OF THE
CHESTERFIELD WINE TRAIL, CHESTERFIELD COUNTY,
SOUTH CAROLINA

Prepared by
Historic Sites, Inc.
2002

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CHICORA FOUNDATION, INC.

Historic Sites, Inc.
2002



ABSTRACT

This report provides the results of a cultural resources investigation of the approximately 98.6 acre Chesterfield Mine Tract near Middendorf in Chesterfield County, South Carolina. The study was conducted by Dr. Michael Trinkley of Chicora Foundation for Mr. Joe Floyd of the Brigman Company, Inc. The study is in anticipation of the mining of a kaolin deposit and is intended to assist Palmetto Brick comply with Section 106 of the National Historic Preservation Act and the regulations codified in 36CFR800.

The proposed mine site will require the clearing of the tract, possible disturbance of the wetlands, and mining of the kaolin deposits. These activities have the potential to affect archaeological and historical sites and this survey was conducted to identify and assess archaeological and historical sites which may be in the project tract. For this study an area of potential effect (APE) 1.0 mile around the proposed site was assumed.

Consultation with the S.C. Department of Archives and History revealed no previously identified NRHP sites or previously surveyed architectural sites within the 1.0 mile APE. A Chesterfield County Survey has been completed by the State Historic Preservation Office which identified 112 sites within the county.

An attempt was made to gather archaeological background for the area at the S.C. Institute of Archaeology and Anthropology, but due to the holiday break, we were refused admittance.

The archaeological study of the tract incorporated shovel testing at 100-foot intervals on transects which were placed at 100-foot intervals running north from the southern end of the tract. All shovel test fill was screened through ¼-inch mesh and the shovel tests were backfilled at the completion of the study. A total of 290 shovel tests were excavated in the survey tract.

One isolated fine, 38CT00, was identified as a result of these investigations. It consists of a

single Savannah River stemmed fragment. This find is recommended not eligible for inclusion on the National Register of Historic Places, based on the limited data of the site. 38CT00 lacks the ability to address significant research questions and no additional management activities are recommended, pending the review of the lead agency and the State Historic Preservation Office.

A survey of public roads within 1.0 mile of the proposed mine area was conducted in an effort to identify any architectural sites over 50 years old which also retained their integrity. No such structures were found.

Finally, it is possible that archaeological remains may be encountered in the project area during clearing activities. Crews should be advised to report any discoveries of concentrations of artifacts (such as bottles, ceramics, or projectile points) or brick rubble to the project engineer, who should in turn report the material to the State Historic Preservation Office or to Chicora Foundation (the process of dealing with late discoveries is discussed in 36CFR800.13(b)(3)). No construction should take place in the vicinity of these late discoveries until they have been examined by an archaeologist and, if necessary, have been processed according to 36CFR800.13(b)(3).

TABLE OF CONTENTS

List of Figures		iii
Introduction		1
Natural Environment		5
<i>Physiography</i>	5	
<i>Geology and Soils</i>	6	
<i>Climate</i>	7	
<i>Floristics</i>	7	
Prehistoric and Historic Synthesis		9
<i>Prehistoric Overview</i>	9	
<i>Historic Research</i>	13	
<i>Previous Research</i>	15	
Methods		17
<i>Archaeological Field Methods</i>	17	
<i>Architectural Survey</i>	17	
<i>Site Evaluation</i>	19	
<i>Laboratory Analysis</i>	20	
Results of Survey		21
<i>Introduction</i>	21	
<i>Isolated Find 38CT00</i>	21	
<i>Historic and Architectural Resources</i>	22	
Conclusions		23
Sources Cited		25

LIST OF FIGURES

Figure	
1. Project vicinity in Chesterfield County	2
2. Project tract	3
3. Pastureland found on the survey tract	5
4. Hardwood and pine forest located in the northern portion of the tract	6
5. Drainage pond next to wetlands	7
6. A generalized cultural sequence for South Carolina	10
7. Mills' <i>Atlas</i> map from 1826 showing approximate survey area	14
8. Portion of the 1950 General Highway and Transportation Map	15
9. Transects in the survey tract	18
10. 38CT00 shown on USGS Middendorf topo	21
11. Sketch map and soil profile for 38CT00	22
12. View of 38CT00	22

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INTRODUCTION

This investigation was conducted by Dr. Michael Trinkley of Chicora Foundation, Inc. for Mr. Joe Floyd of the Brigman Company, Inc. The work was conducted to assist the Brigman Company and their client, Palmetto Brick, comply with Section 106 of the National Historic Preservation Act and the regulations codified in 36CFR800.

The project site consists of a 98.6 acre tract proposed to be used for a kaolin mine, south of the city of Middendorf off US 1 in Chesterfield County (Figure 1). The tract is irregular in shape with its northern edge bordering Little Beaverdam Branch (Figure 2).

The tract consists of areas of high undulating topography with about 16.1 acres of wetlands. The survey encountered sections of pine and mixed hardwood forests, wetlands, and old pasture. The surrounding area is still very rural, similar to much of Chesterfield County.

The tract, as previously mentioned, is intended to be used as a kaolin mine. This work will require the disturbance of wetland areas and the excavation of the tract. These activities have the potential to cause extensive damage to any archaeological resources which may be present on the tract.

Construction and subsequent daily operation may also have an impact on historic resources in the project area. Although there are no historic structures on the project tract, the proposed undertaking may detract from the visual integrity of nearby properties, creating what may consider discordant surroundings. The construction activities may create additional traffic, dust, and noise. The operation of the mine may produce additional long-term affects, including an increase in truck traffic and noise. As a result, an architectural survey was also conducted for the proposed undertaking, using an area of potential effect (APE) of about 1.0 mile around the

proposed property.

This study, however, does not consider any future secondary impact of the project, including increased or expanded development of this portion of Chesterfield County.

We were requested by Mr. Joe Floyd of the Brigman Company to provide a proposal for the survey in December 2001. A proposal was provided and accepted shortly thereafter.

Prior to the field investigation we attempted to conduct a cultural resources background check for the proposed tract. This would have incorporated a review of the site files at the South Carolina Institute of Archaeology and Anthropology. Due to the holiday, we were refused admittance to the facility. The clients needs did not allow postponing the study until it was convenient to SCIAA to allow access to these records.

The South Carolina Department of Archives and History GIS was consulted to check for any NRHP buildings, districts, structures, sites, or objects in the study area. No NRHP sites were found within a mile of the survey. A Chesterfield County Survey had been conducted by the State Historic Preservation Office which identified 112 sites, but no previously identified properties were found in the 1.0 mile APE.

Archival and historical research was limited to a review of secondary sources available in the Chicora Foundation files.

The archaeological survey was conducted from December 26-28, 2001 by Mr. Tom Covington and Ms. Nicole Southerland under the direction of Dr. Michael Trinkley and revealed one isolated find, 38CT00, situated within the proposed project area. This site included a single prehistoric projectile point base. No other materials were found in the other shovel tests.

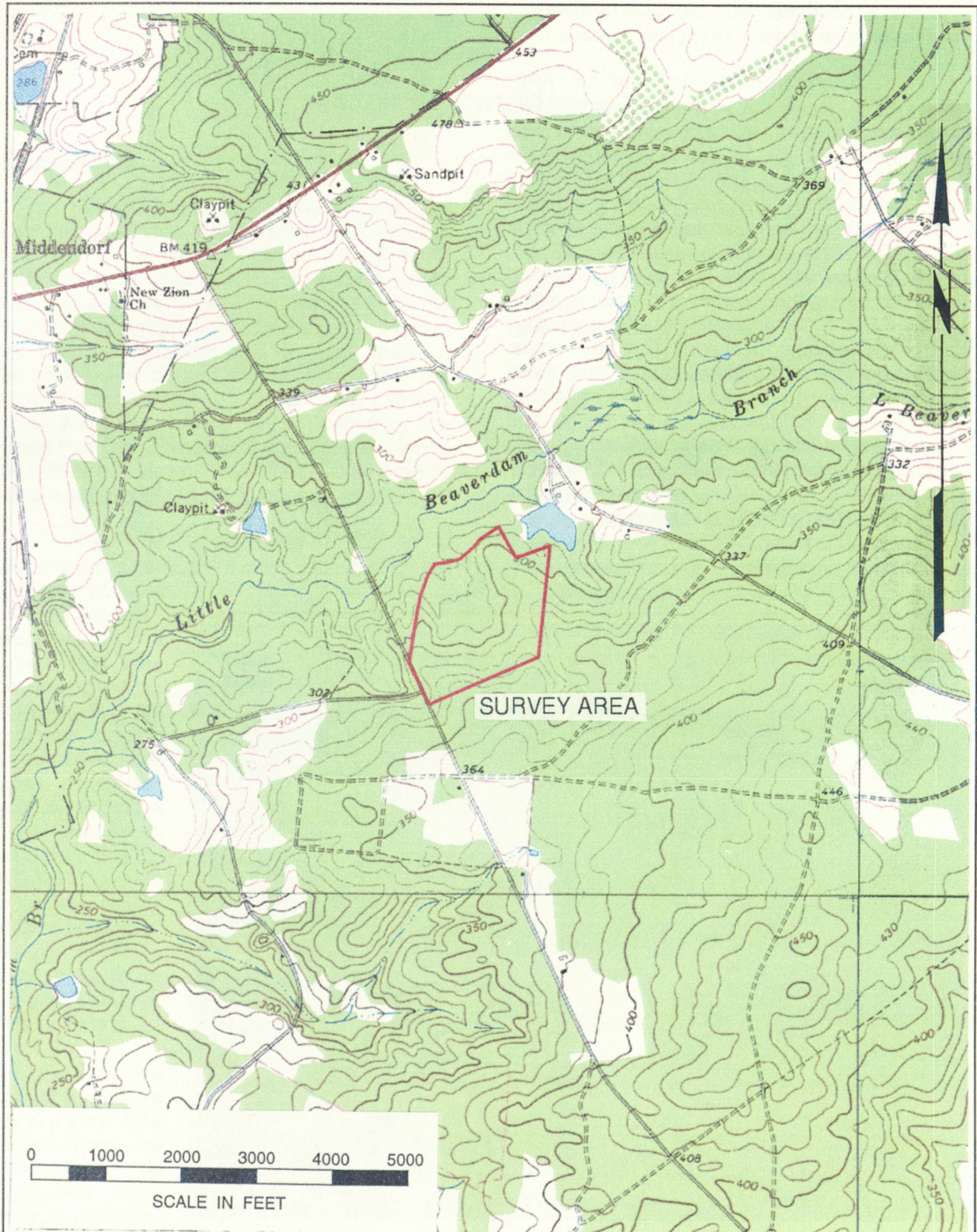


Figure 2. Project tract (basemap is USGS Middendorf 7.5').

This find is recommended not eligible for inclusion on the National Register of Historic Places.

The architectural survey of the APE, designed to identify any structures over 50 years in age which retain their integrity revealed no such structures.

Laboratory work and report production was conducted at Chicora's laboratories in Columbia, South Carolina on December 28. An archaeological site form, for the isolated find identified during this investigation, has been filed with the South Carolina Institute of Archaeology and Anthropology (SCIAA). The field notes, artifact catalog, and artifact resulting from these investigations will be curated at SCIAA and will be maintained by that institution in perpetuity. The only photographic materials associated with this project are color prints, which are not archival. The negatives and prints for these photographs are retained by Chicora Foundation.

NATURAL ENVIRONMENT

Physiography

Chesterfield County is situated in the Fall Line and Sand Hills area of South Carolina. It is bounded to the north by Union County, North Carolina, to the east by Marlboro County, South Carolina and the Great Pee Dee River, to the south by Darlington County, South Carolina and to the west by Lancaster and Kershaw counties, South Carolina as well as Lynches River. The western half of the county is drained by Lynches River while the eastern half is drained by the Great Pee Dee. The project area itself is drained by Hills Creek, Brown Creek, and Cattail Branch, all of which both feed into Lynches River.

The Fall Line Sandhills lie in a discontinuous belt 5 to 15 miles wide through the center of the Midlands, paralleling the coast. Fall Line topography is formed by the vigorous erosion of streams that pass from the piedmont bedrock to the loose sands of the coastal plain. The streams rapidly descend to form shoals in major rivers or waterfalls on small streams (Barry 1980:97).

Cooke (1936) has divided the Sandhills into the Aiken Plateau, the Congaree Sand Hills, the Richland Sand Hills, and

the High Hills of the Santee. The Richland Red Hills and the High Hills of the Santee are both similar in size and morphology. These two groups are considered the "Red Sand Hills" while the remaining groups are considered the "White Sand Hills" (Colquhoun 1965). The project area is located in the Fall Line region, with the Red Sand Hills just east of the area.

Elevations in the county range from about 75 feet above sea level at the Pee Dee River to about 725 feet above sea level near the town of Pageland (Morton 1995). The survey tract is characterized by elevations ranging from 270 to 340 feet above mean sea level (AMSL). The area is dominated by rolling hills and flatter areas of wetlands. The northern portion of the survey tract is covered with a young hardwood forest with few



Figure 3. Pastureland found on the survey tract.



Figure 4. Hardwood and Pine forest located in the northern portion of the tract.

pinus interspersed.

Geology and Soils

The soils in Chesterfield County were formed in material weathered from rock and in sediment that was deposited by the ocean, by streams, or successively by both. In general, the underlying rocks are crystalline and metamorphic rocks such as Carolina slate, gneiss, schist, and granite. Mills describes the soils as being poor for cultivation. He states:

[a] large proportion of this district presents pine barren sand hills, not worth cultivation, except when intersected by streams; where a little good soil is found. Along the northern boundary the land inclines towards the clayey and stony kind, and present a rolling surface. The river lands are of a rich soil, as also those

bordering
t h e
creeks, in
proportion
to their
extent
(Mills
1 9 7 2
[1826]:49
7).

The project area is situated on two soil associations: Alpin-Candor and Ailey-Johnson-Vaucluse associations. Both of these associations are found in nearly level to moderately steep soils found within the sand hills (Morton 1995).

Within these two general associations, seven individual soil types are found on the survey tract. Ailey sands are found most commonly on the tract. This series contains an A horizon of brown (10YR5/3) sand to 0.3 foot over a light yellowish-brown (10YR6/4) sand which can occur to a depth of over 2.3 feet. The Ailey series occurs on slopes ranging from 2-10%.

Lucy sands, Alpin sands, and Troup sands are all found in equal proportions within the project area. Lucy sands are similar to Ailey sands, but the Lucy series contains the brown (10YR5/3) A horizon to a depth of 0.6 foot over yellowish-brown (10YR5/4) sand which occurs to a depth of 1.6 feet. These sands occur on 0-6% slopes. Alpin sands, which also occur on 0-6% slopes, have an A horizon of brown (10YR5/3) sand to a depth of 0.8 foot over a brownish-yellow (10YR6/6) sand which occurs to a depth of 2.3 feet. Troup sands occur on steeper 6-10% slopes and contain an Ap horizon of grayish-brown (10YR5/2) sand to a depth of 0.5 foot over

a light yellowish-brown (10YR6/4) sand occurring to a depth of just over 2.0 feet.

Closer to the wetland areas are the Pelion loamy sands and Ogeechee sandy loams. The Pelion series consists of a brown (10YR5/3) loamy sand to a depth of 0.6 foot over a very pale brown (10YR7/3) loamy sand to a depth of 1.2 feet. The Ogeechee series consists of very deep, poorly drained soils that formed in marine sediments (Morton 1995). The slopes are less than 1% and are located in shallow drainageways and depressions (Morton 1995). The Ap horizon consists of a very dark gray (10YR3/1) sandy loam to a depth of 0.7 foot over a gray (10YR6/1) sandy clay loam which occurs to a depth of 1.5 feet.

Climate

Elevation, latitude, and distance from the coast work together to affect the climate of South Carolina, including the Fall Line and Sand Hills. In addition, the more westerly mountains block or moderate many of the cold air masses that flow across the state from west to east. Even the very cold air masses which cross the mountains are warmed somewhat by compression before they descend on the Piedmont and adjacent Sand Hills.

Consequently, the climate of Chesterfield County is temperate. The winters are relatively mild and the summers warm and humid. Rainfall



Figure 5. Drainage pond next to wetlands.

in the amount of about 48 inches is adequate, although less than in some neighboring counties. About 27 inches of rain occur during the growing season, with periods of drought not uncommon during the summer months.

Floristics

In this region, the dominant vegetation is the white oak which is either dominant itself or in combination with loblolly pine. Other overstory trees consist of sweetgum, beech, southern red oak, post oak, mockernut hickory, and southern sugar maple. Understory vegetation is dominated by flowering dogwood, sourgum, redbud, and other smaller species such as holly and leatherwood. Herbaceous flora is generally varied, but includes many species of the xeric woodlands as well as those more prevalent in the piedmont (Barry 1980:138-140).

Currently, the vegetation surrounding the survey area consists of mostly pastureland (Figure

3), but also containing a young mixed hardwood/pine forest (Figure 4), a small hardwood forest, and areas of wetland (Figure 5).

PREHISTORIC AND HISTORIC BACKGROUND

Prehistoric Overview

Overviews for South Carolina's prehistory, while of differing lengths and complexity, are available in virtually every compliance report prepared. There are, in addition, some "classic" sources well worth attention, such as Joffre Coe's *Formative Cultures* (Coe 1964), as well as some new general overviews (such as Sassaman et al. 1990 and Goodyear and Hanson 1989). Also extremely helpful, perhaps even essential, are a handful of recent local synthetic statements, such as that offered by Sassaman and Anderson (1994) for the Middle and Late Archaic and by Anderson et al. (1992) for the Paleoindian and Early Archaic. Only a few of the many sources are included in this study, but they should be adequate to give the reader a "feel" for the area and help establish a context for the various sites identified in the study areas. For those desiring a more general synthesis, perhaps the most readable and well balanced is that offered by Judith Bense (1994), *Archaeology of the Southeastern United States: Paleoindian to World War I*. Figure 6 offers a generalized view of South Carolina's cultural periods.

Paleoindian Period

The Paleoindian Period, most commonly dated from about 12,000 to 10,000 B.P., is evidenced by basally thinned, side-notch projectile points; fluted, lanceolate projectile points, side scrapers, end scrapers; and drills (Coe 1964; Michie 1977; Williams 1965). Oliver (1981, 1985) has proposed to extend the Paleoindian dating in the North Carolina Piedmont to perhaps as early as 14,000 B.P., incorporating the Hardaway Side-Notched and Palmer Corner-Notched types, usually accepted as Early Archaic, as representatives of the terminal phase. This view, verbally suggested by Coe for a number of years,

has considerable technological appeal.¹

The Paleoindian occupation, while widespread, does not appear to have been intensive. Artifacts are most frequently found along major river drainages, which Michie interprets to support the concept of an economy "oriented toward the exploitation of now extinct mega-fauna" (Michie 1977:124). Survey data for Paleoindian tools, most notably fluted points, is somewhat dated, but has been summarized by Charles and Michie 1992). They reveal a widespread distribution across the state (see also Anderson 1992b:Figure 5.1) with at least several concentrations relating to intensity of collector activity.

Distinctive projectile points include lanceolates such as Clovis, Dalton, perhaps the Hardaway, and Big Sandy (Coe 1964; Phelps 1983; Oliver 1985). A temporal sequence of Paleoindian projectile points was proposed by Williams (1965:24-51), but according to Phelps (1983:18) there is little stratigraphic or chronometric evidence for it. While this is certainly true, a number of authors, such as Anderson (1992a) and Oliver (1985) have assembled impressive data sets. We are inclined to believe that while often not conclusively proven by stratigraphic excavations (and such proof may be an unreasonable expectation), there is a large body of circumstantial evidence. The weight of this evidence tends to provide considerable support.

Unfortunately, relatively little is known about Paleoindian subsistence strategies,

¹While never discussed by Coe at length, he did observe that many of the Hardaway points, especially from the lowest contexts, had facial fluting or thinning which, "in cases where the side-notches or basal portions were missing, . . . could be mistaken for fluted points of the Paleo-Indian period" (Coe 1964:64). While not an especially strong statement, it does reveal the formation of the concept. Further insight is offered by Ward's (1983:63) all too brief comments on the more recent investigations at the Hardaway site (see also Daniel 1992).

CULTURAL RESOURCES SURVEY OF THE CHESTERFIELD MINE TRACT

settlement systems, or social organization (see, however, Anderson 1992b for an excellent overview and synthesis of what is known). Generally, archaeologists agree that the Paleoindian groups were at a band level of society, were nomadic, and were both hunters and foragers. While population density, based on

isolated finds, is thought to have been low, Walthall suggests that toward the end of the period, "there was an increase in population density and in territoriality and that a number of new resource areas were beginning to be exploited" (Walthall 1980:30).

Dates	Period	Sub-Period	Regional Phases		
			COASTAL	MIDDLE SAVANNAH VALLEY	CENTRAL CAROLINA PIEDMONT
1715	HIST.	EARLY	Altamaha		Caraway
1650		LATE	Irene / Pee Dee	Rembert Hollywood	Dan River
1100	MISS.	EARLY	Savannah	Lawton Savannah	
		LATE	St. Catherines / Swift Creek		Pee Dee
800	WOODLAND				Uwharrie
A.D.		MIDDLE	Wilmington	Sand Tempered Wilmington?	
B.C.			Deptford	Deptford	Yadkin
300		EARLY		Refuge	Badin
1000	ARCHAIC			Thom's Creek Stallings	
2000		LATE		Savannah River Halifax	
3000		MIDDLE		Guilford Morrow Mountain Stanly	
5000	PALEOINDIAN	EARLY		Kirk Palmer	
8000				Hardaway	
10,000				Hardaway - Dalton	
12,000			Cumberland	Clovis	Simpson

Figure 6. A generalized cultural sequence for South Carolina.

Archaic Period

The Archaic Period, which dates from 10,000 to 3,000 B.P.², does not form a sharp break with the Paleoindian Period, but is a slow transition characterized by a modern climate and an increase in the diversity of material culture. Associated with this is a reliance on a broad spectrum of small mammals, although the white tailed deer was likely the most commonly exploited animal. Archaic period assemblages, exemplified by corner-notched and broad-stemmed projectile points, are fairly common, perhaps because the swamps and drainages offered especially attractive ecotones.

Many researchers have reported data suggestive of a noticeable population increase from the Paleoindian into the Early Archaic. This has tentatively been associated with a greater emphasis on foraging. Diagnostic Early Archaic artifacts include the Kirk Corner Notched point. As the climate became hotter and drier than the previous Paleoindian period, resulting in vegetational changes, it also affected settlement patterning as evidenced by a long-term Kirk phase midden deposit at the Hardaway site (Coe 1964:60). This is believed to have been the result of a change in subsistence strategies.

Settlements during the Early Archaic suggest the presence of a few very large, and

apparently intensively occupied, sites which can best be considered base camps. Hardaway might be one such site. In addition, there were numerous small sites which produce only a few artifacts — these are the "network of tracks" mentioned by Ward (1983:65). The base camps produce a wide range of artifact types and raw materials which has suggested to many researchers long-term, perhaps seasonal or multi-seasonal, occupation. In contrast, the smaller sites are thought of as special purpose or foraging sites (see Ward 1983:67).

Middle Archaic (8,000 to 6,000 B.P.) diagnostic artifacts include Morrow Mountain, Guilford, Stanly and Halifax projectile points. Much of our best information on the Middle Archaic comes from sites investigated west of the Appalachian Mountains, such as the work by Jeff Chapman and his students in the Little Tennessee River Valley (for a general overview see Chapman 1977, 1985a, 1985b). There is good evidence that Middle Archaic lithic technologies changed dramatically. End scrapers, at times associated with Paleoindian traditions, are discontinued, raw materials tend to reflect the greater use of locally available materials, and mortars are initially introduced. Associated with these technological changes there seem to also be some significant cultural modifications. Prepared burials begin to more commonly occur and storage pits are identified. The work at Middle Archaic river valley sites, with their evidence of a diverse floral and faunal subsistence base, seems to stand in stark contrast to Caldwell's Middle Archaic "Old Quartz Industry" of Georgia and the Carolinas, where axes, choppers, and ground and polished stone tools are very rare.

The Late Archaic, usually dated from 6,000 to 3,000 or 4,000 B.P., is characterized by the appearance of large, square stemmed Savannah River projectile points (Coe 1964). These people continued to intensively exploit the uplands much like earlier Archaic groups with, the bulk of our data for this period coming from the Uwharrie region in North Carolina.

In addition to the presence of Savannah River points, the Late Archaic also witnessed the introduction of steatite vessels (see Coe 1964:112-113; Sassaman 1993), polished and

² The terminal point for the Archaic is no clearer than that for the Paleoindian and many researchers suggest a terminal date of 4,000 B.P. rather than 3,000 B.P. There is also the question of whether ceramics, such as the fiber-tempered Stallings ware, will be included as Archaic, or will be included with the Woodland. Oliver, for example, argues that the inclusion of ceramics with Late Archaic attributes "complicates and confuses classification and interpretation needlessly" (Oliver 1981:20). He comments that according to the original definition of the Archaic, it "represents a preceramic horizon" and that "the presence of ceramics provides a convenient marker for separation of the Archaic and Woodland periods (Oliver 1981:21). Others would counter that such an approach ignores cultural continuity and forces an artificial, and perhaps unrealistic, separation. Sassaman and Anderson (1994:38-44), for example, include Stallings and Thom's Creek wares in their discussion of "Late Archaic Pottery." While this issue has been of considerable importance along the Carolina and Georgia coasts, it has never affected the Piedmont, which seems to have embraced pottery far later, well into the conventional Woodland period. The importance of the issue in the Sandhills, unfortunately, is not well known.

pecked stone artifacts, and grinding stones. Some also include the introduction of fiber-tempered pottery about 4000 B.P. in the Late Archaic (for a discussion see Sassaman and Anderson 1994:38-44). This innovation is of special importance along the Georgia and South Carolina coasts, but seems to have had only minimal impact in the uplands of South or North Carolina.

There is evidence that during the Late Archaic the climate began to approximate modern climatic conditions. Rainfall increased resulting in a more lush vegetation pattern. The pollen record indicates an increase in pine which reduced the oak-hickory nut masts which previously were so widespread. This change probably affected settlement patterning since nut masts were now more isolated and concentrated. From research in the Savannah River valley near Aiken, South Carolina, Sassaman has found considerable diversity in Late Archaic site types with sites occurring in virtually every upland environmental zone. He suggests that this more complex settlement pattern evolved from an increasingly complex socio-economic system. While it is unlikely that this model can be simply transferred to the Sandhills of South Carolina without an extensive review of site data and micro-environmental data, it does demonstrate one approach to understanding the transition from Archaic to Woodland.

Woodland Period

As previously discussed, there are those who see the Woodland beginning with the introduction of pottery. Under this scenario the Early Woodland may begin as early as 4,500 B.P. and continued to about 2,300 B.P. Diagnostics would include the small variety of the Late Archaic Savannah River Stemmed point (Oliver 1985) and pottery of the Stallings and Thoms Creek series. These sand tempered Thoms Creek wares are decorated using punctations, jab-and-drag, and incised designs (Trinkley 1976). Also potentially included are Refuge wares, also characterized by sandy paste, but often having only a plain or dentate-stamped surface (Waring 1968). Others would have the Woodland beginning about 3,000 B.P. and perhaps as late as 2,500 B.P. with the introduction of pottery which is cord-marked or fabric-impressed and

suggestive of influences from northern cultures.

There remains, in South Carolina, considerable ambiguity regarding the pottery series found in the Sandhills and their association with coastal plain and piedmont types. The earliest pottery found at many sites may be called either Deptford or Yadkin, depending on the research or their inclination at any given moment.

The Deptford phase, which dates from 3050 to 1350 B.P., is best characterized by fine to coarse sandy paste pottery with a check stamped surface treatment. The Deptford settlement pattern involves both coastal and inland sites.

Inland sites such as 38AK228-W, 38LX5, 38RD60, and 38BM40 indicate the presence of an extensive Deptford occupation on the Fall Line and the Inner Coastal Plain/Sand Hills, although sandy, acidic soils preclude statements on the subsistence base (Anderson 1979; Ryan 1972; Trinkley 1980). These interior or upland Deptford sites, however, are strongly associated with the swamp terrace edge, and this environment is productive not only in nut masts, but also in large mammals such as deer. Perhaps the best data concerning Deptford "base camps" comes from the Lewis-West site (38AK228-W), where evidence of abundant food remains, storage pit features, elaborate material culture, mortuary behavior, and craft specialization has been reported (Sassaman et al. 1990:96-98; see also Sassaman 1993 for similar data recovered from 38AK157).

Further to the north and west, in the Piedmont, the Early Woodland is marked by a pottery type defined by Coe (1964:27-29) as Badin.³ This pottery is identified as having very fine sand in the paste with an occasional pebble. Coe identified cord-marked, fabric-marked, net-impressed, and plain surface finishes. Beyond this pottery little is known about the makers of the Badin wares and relatively few of these sherds are

³ The ceramics suggest clear regional differences during the Woodland which seem to only be magnified during the later phases. Ward (1983:71), for example, notes that there "marked distinctions" between the pottery from the Buggs Island and Gaston Reservoirs and that from the south-central Piedmont.

reported from South Carolina sites.

Somewhat more information is available for the Middle Woodland, typically given the range of about 2,300 B.P. to 1,200 B.P. In the Piedmont and even into the Sand Hills, the dominant Middle Woodland ceramic type is typically identified as the Yadkin series. Characterized by a crushed quartz temper the pottery includes surface treatments of cord-marked, fabric-marked, and a very few linear check-stamped sherds (Coe 1964:30-32). It is regrettable that several of the seemingly "best" Yadkin sites, such as the Trestle site (31An19) explored by Peter Cooper (Ward 1983:72-73), have never been published.

Yadkin ceramics are associated with medium-sized triangular points, although Oliver (1981) suggests that a continuation of the Piedmont Stemmed Tradition to at least 1650 B.P. coexisted with this Triangular Tradition. The Yadkin in South Carolina has been best explored by research at 38SU83 in Sumter County (Blanton et al. 1986) and at 38FL249 in Florence County (Trinkley et al. 1993)

In some respects the Late Woodland (1,200 B.P. to 400 B.P.) may be characterized as a continuation of previous Middle Woodland cultural assemblages. While outside the Carolinas there were major cultural changes, such as the continued development and elaboration of agriculture, the Carolina groups settled into a lifeway not appreciably different from that observed for the previous 500-700 years. From the vantage point of the Middle Savannah Valley Sassaman and his colleagues note that, "the Late Woodland is difficult to delineate typologically from its antecedent or from the subsequent Mississippian period" (Sassaman et al. 1990:14). This situation would remain unchanged until the development of the South Appalachian Mississippian complex (see Ferguson 1971).

Historic Research

The early history of Chesterfield County was only briefly presented by Mills (1972 [1826]:496):

This district was originally settled by emigrants from Virginia and

Pennsylvania, about the year 1745. At that time it formed a part of Craven county, afterwards of Cheraw precincts; and now constitutes in itself an independent judicial district.

The Cheraw district was originally part of Craven County in 1682. In 1731 the township of Queensboro was laid out at the confluence of the Great Pee Dee and the Little Pee Dee Rivers to entice settlement in that region. However, settlers were slow coming in.

Welsh began settling the area in the late 1730s and other immigrants, including Scots, Irish, Germans, French, and English, soon followed. In addition, settlers from Virginia and Pennsylvania moved into the area. While subsistence based, farmers discovered that cane brakes were perfect for raising livestock. As more land was cleared, other economic sources such as lumber developed. During the colonial period the major crops were wheat, corn, and indigo.

In the 1760s colonists attempted to bring law and order to the area. Colonists complained that they were too far from existing courts and magistrates for them to be of any use. Frustrated by their unheard cries for assistance, they began taking matters into their own hands. These "regulators" allowed only writs and warrants to be served which had been given their consent.

During the American Revolution a number of skirmishes took place in the back country. British Major McArthur was stationed at Cheraw, where a number of encounters took place between he and Colonel Powell of the Continental Army. Unaccustomed to the warm subtropical climate, many of the British fell ill and died. McArthur was forced to withdraw to Lynches Creek, about two miles from Jefferson, to recuperate and received reinforcements. Other than these developments, very little war related activities took place in Chesterfield County (Gregg 1867).

After the war, the Cheraw district grew rapidly and in 1785 the district was divided into three counties: Marlborough, Chesterfield, and Darlington. Improvements were then made in the

transportation system creating more roads and public ferries. By 1820 the population of the county consisted of 4,412 white and 2,333 black inhabitants (White 1972).

In 1826 the town of Chesterfield became the county seat. At this time the town consisted of 12 houses, two stores, and a new courthouse. Mills Atlas (1965 [1826]) shows the project area as containing two subscribers at that time. Most of the subscribers shown are situated along major creeks and roads which probably accurately depicts the settlement pattern in the area at that time (Figure 7).

Between 1820 and 1856 South Carolina saw an increase in manufacturing and business. In the late 1820s gold was discovered near Miller's Store (now Jefferson). Although some increases occurred, generally South Carolina remained a state based on subsistence farming and one crop cotton staple (Wallace 1951).

Few Chesterfield County citizens owned slaves, making the residents more like their North Carolina neighbors. Although against secession, the county sent five companies of infantry, as well as supplies, for the Confederate cause. Chesterfield County did not see much action until the last days of the war during Sherman's return from his "March to the Sea". In March of 1865 Union forces reached Chesterfield. After a skirmish with Confederate troops, a number of public buildings were burned.

After Sherman's troops reached Cheraw, they located a large number of Confederate military supplies sent up from Charleston. Sherman inventoried 24 cannons, 2000 muskets, 3600 barrels of gunpowder, and "other things" (Glatthaar 1985). Unfortunately a careless soldier caused many of the supplies to be lost in an explosion that also killed several men and wounded many more.

The arrival of the railroad can be attributed to the eventual recovery of the county. In the 1880s lines were built connecting Chesterfield County to important towns including Salisbury, North Carolina and Camden, South Carolina. During reconstruction and into 1900, small subsistence farming continued. Those larger farmers who had been dependent on slaves turned to sharecropping and tenant farming. The early 1900s brought improvements to the county, although by in large, the area was still impoverished. Cotton was still the staple crop although farmers began experimenting with growing melons, grapes, and other fruits.

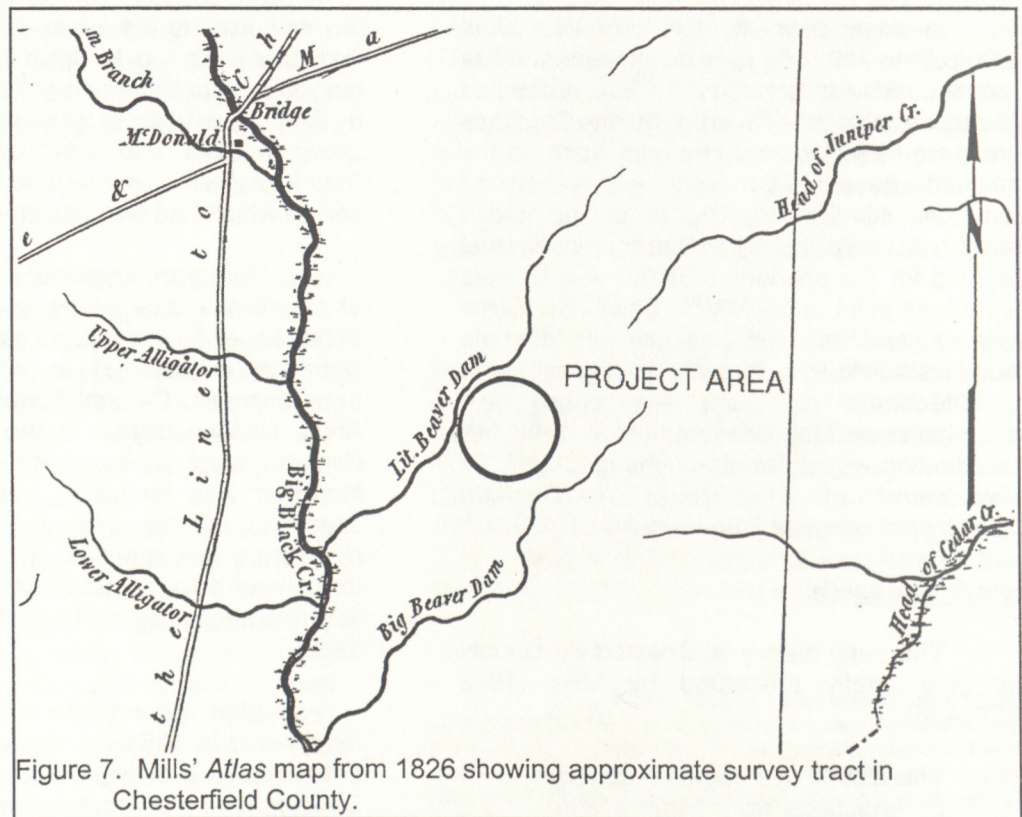


Figure 7. Mills' Atlas map from 1826 showing approximate survey tract in Chesterfield County.

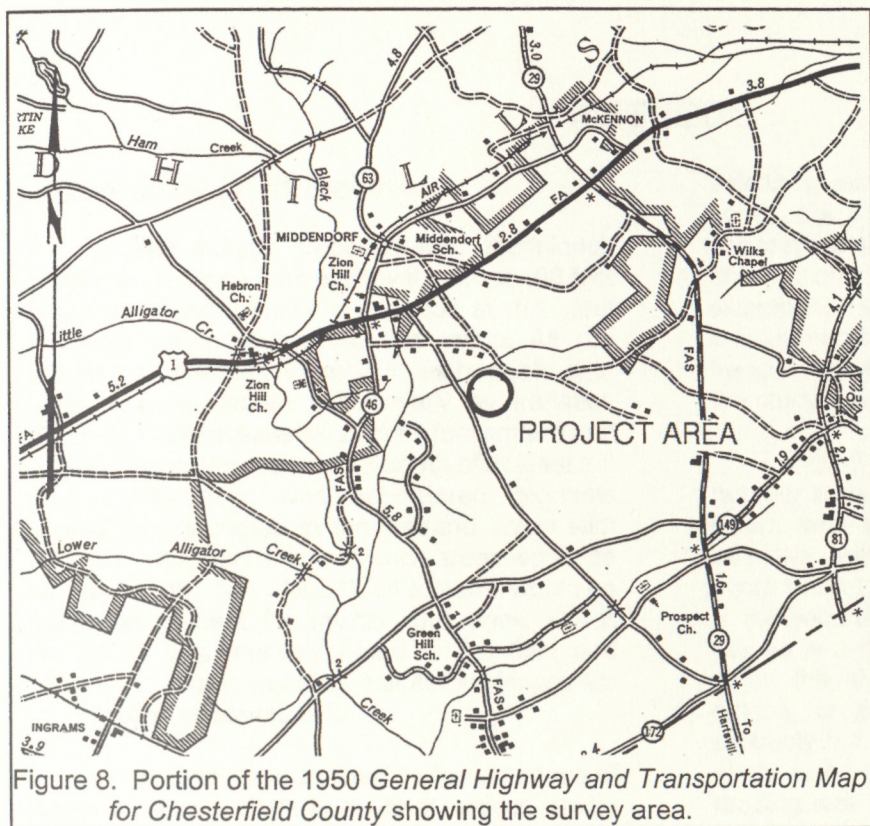


Figure 8. Portion of the 1950 General Highway and Transportation Map for Chesterfield County showing the survey area.

Chesterfield County shipped 30,000 bales of cotton in 1925 and had become the state's largest peach producer. The South Carolina General Highway and Transportation Map from 1950 shows only a few houses in proximity to the project area, but nothing directly on the survey tract (Figure 8).

A major shift in agriculture occurred over the next several decades. By 1940 the tractor was widely used. Low cotton yields forced a conversion to soybean production in the 1960s. By the 1970s, poultry and eggs had replaced cotton as the leading income for the county. Today, agriculture remains an important part of the economy, although industry is beginning to offset its importance. Chesterfield has become one of the largest wood pulp producing counties in the state.

Previous Research

Very little archaeological research has

been performed in Chesterfield County. Most of the work has been performed at the survey level and consists of work associated with highway projects (e.g. Cable and Cantley 1979; Trinkley 1982). Other projects consist of a survey of the Carolina Sandhills National Wildlife Refuge (Wright 1978), a golf course survey at Cheraw State Park (Barker 1990), and a survey for the Piedmont Sand Company (Trinkley and Southerland 2001).

There are additional archaeological investigations in Chesterfield County (see Derting et al. 1991), although these projects are largely confined road and highway widening projects.



METHODS

Archaeological Field Methods

The initially proposed field techniques involved the placement of shovel tests at 100 foot intervals along transects laid out at 100 foot intervals on a north-south orientation. All soil would be screened through ¼ inch mesh, with each test numbered sequentially by transect. Each test would measure about 1 foot square and would normally be taken to a depth of at least 1.0 foot or until subsoil was encountered. No tests would be conducted in the wetland areas with standing water (although all such areas would be walked if possible). All cultural remains would be collected, except for mortar and brick, which would be quantitatively noted in the field and discarded. Notes would be maintained for profiles at any sites encountered.

Should sites (defined by the presence of three or more artifacts from either surface survey or shovel tests within a 50 feet area) be identified, further tests would be used to obtain data on site boundaries, artifact quantity and diversity, site integrity, and temporal affiliation. These tests would be placed at 25 to 50 feet intervals in a simple cruciform pattern until two consecutive negative shovel tests were encountered. The information required for completion of South Carolina Institute of Archaeology and Anthropology site forms would be collected and photographs would be taken, if warranted in the opinion of the field investigators.

These proposed techniques were implemented with no significant modifications. A series of 17 transects were laid out running south-north from the southern edge of the parcel bounded by a fence to the northern section which bordered the Little Beaverdam Branch. A total of 290 shovel tests were excavated with an addition 8 tests excavated around the isolated find (discussed in a following section).

The GPS positions were taken with a Garmin GPS 12XL rover that tracks up to twelve

satellites, each with a separate channel that is continuously being read. The benefit of parallel channel receivers is their improved sensitivity and ability to obtain and hold a satellite lock in difficult situations, such as in forests or urban environments where signal obstruction is a frequent problem. This was not a vital concern for the study area.

GPS accuracy is generally affected by a number of sources of potential error, including errors with satellite clocks, multipathing, and selective availability. Satellite clock errors can occur when the satellites' clock is off by as little as a millisecond, or when a slightly-askew orbit results in a distance error. Multipathing occurs when the signal bounces off trees, chain-link fences, or bodies of water. Multipathing was probably not a significant source of error for this study since the site area was cleared and our reading was taken in the center of the site. The source of most extreme GPS errors is selective availability (SA), the deliberate mistiming of satellite signals by the Department of Defense. This degradation results in horizontal errors of up to 100 m 95% of the time, although the error may be as much as 300 m. Nevertheless, selective availability has been turned off by the DOD. We have previously determined the 3D¹ and DGPS readings with the Garmin 12XL were identical. Therefore, we relied on 3D navigation mode, with expected potential horizontal errors of 6 m or less.

Architectural Survey

As previously discussed, we elected to use a 1.0 mile area of potential effect (APE). The architectural survey would record buildings, sites,

¹A basic requirement for GPS position accuracy is having a lock on at least four satellites, which places the receiver in 3D mode. This is critical – as an example, positions calculated with less than four satellites can have horizontal errors in excess of a mile, or over 1,600 m.

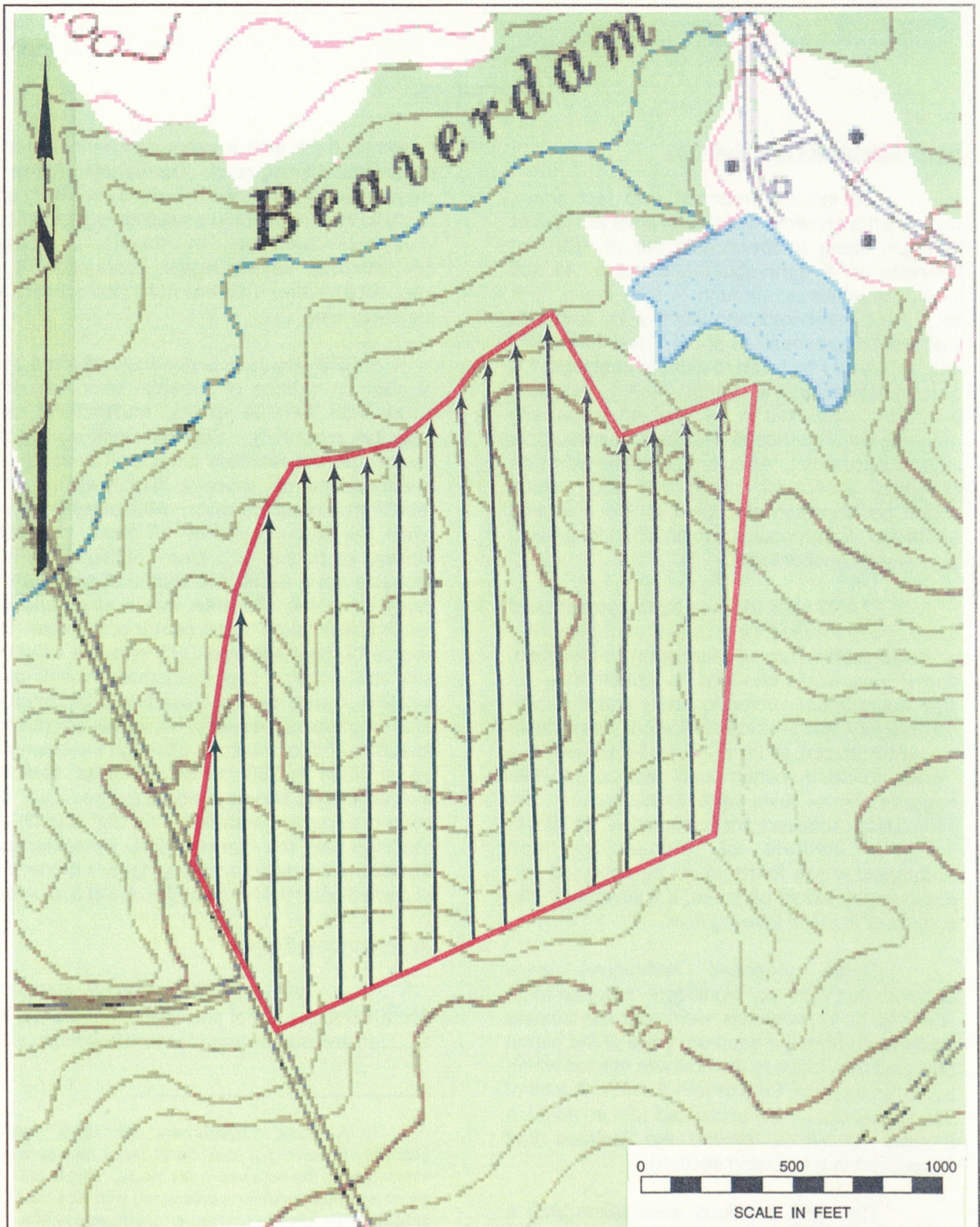


Figure 9. Transects in the survey tract.

structures, and objects which appeared to have been constructed before 1950. Typical of such projects, this survey recorded only those which "have kept their integrity" (Anonymous n.d.:4) and which were visible from public roads.

For each identified resource we would complete a Statewide Survey Site Form and at least two representative photographs were taken. Permanent control numbers would be assigned by the Survey Staff of the S.C. Department of Archives and History at the conclusion of the study. The Site Forms for the resources identified during this study would be submitted to the S.C. Department of Archives and History.

The survey was conducted by driving the public roads (typically county or state secondary roads) in the APE. The roads included only Widow Johnson Road (on which the survey tract was located) and a handful of the smaller roads in the area.

Site Evaluation

Archaeological sites will be evaluated for further work based on the eligibility criteria for the National Register of Historic Places. Chicora Foundation only provides an opinion of National Register eligibility and the final determination is made by the lead federal agency, in consultation with the State Historic Preservation Officer at the South Carolina Department of Archives and History.

The criteria for eligibility to the National Register of Historic Places is described by 36CFR60.4, which states:

the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and

a. that are associated with events that have made a significant contribution to the

broad patterns of our history;
or

b. that are associated with the lives of persons significant in our past; or

c. that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

d. that have yielded, or may be likely to yield, information important in prehistory or history.

National Register Bulletin 36 (Townsend et al. 1993) provides an evaluative process that contains five steps for forming a clearly defined explicit rationale for either the site's eligibility or lack of eligibility. Briefly, these steps are:

- identification of the site's data sets or categories of archaeological information such as ceramics, lithics, subsistence remains, architectural remains, or sub-surface features;

- identification of the historic context applicable to the site, providing a framework for the evaluative process;

- identification of the important research questions the site might be able to address, given the data sets and the context;

- evaluation of the site's archaeological integrity to ensure that the data sets were sufficiently well preserved to address the research questions; and

- identification of important research questions among all of those which might be asked and answered at the site.

This approach, of course, has been developed for use documenting eligibility of sites being actually nominated to the National Register of Historic Places where the evaluative process must stand alone, with relatively little reference to other documentation and where typically only one site is being considered. As a result, some aspects of the evaluative process have been summarized, but we have tried to focus on an archaeological site's ability to address significant research topics within the context of its available data sets.

For architectural sites the evaluative process was somewhat different. Given the relatively limited architectural data available for most of the properties, we focus on evaluating these sites using National Register Criterion C, looking at the site's "distinctive characteristics." Key to this concept is the issue of integrity. This means that the property needs to have retained, essentially intact, its physical identity from the historic period.

Particular attention would be given to the integrity of design, workmanship, and materials. Design includes the organization of space, proportion, scale, technology, ornamentation, and materials. As *National Register Bulletin* 36 observes, "Recognizability of a property, or the ability of a property to convey its significance, depends largely upon the degree to which the design of the property is intact" (Townsend et al. 1993:18). Workmanship is evidence of the artisan's labor and skill and can apply to either the entire property or to specific features of the property. Finally, materials — the physical items used on and in the property — are "of paramount importance under Criterion C" (Townsend et al. 1993:19). Integrity here is reflected by maintenance of the original material and avoidance of replacement materials.

Laboratory Analysis

The cleaning and analysis of artifacts was conducted in Columbia at the Chicora Foundation laboratories. These materials have been

catalogued and accessioned for curation at the South Carolina Institute of Archaeology and Anthropology, the closest regional repository. The site form for the identified archaeological site has been filed with the South Carolina Institute of Archaeology and Anthropology. Field notes and photographic materials have been prepared for curation using archival standards and will be transferred to that agency as soon as the project is complete.

Analysis of the historic collections follow professionally accepted standards with a level of suitability to the quantity and quality of the remains. In general, the temporal, cultural, and typological classifications of historic remains follow such authors as Price (1970) and South (1977). Glass artifacts are identified using sources such as Jones (1986), and Jones and Sullivan (1985). Sutton and Arkush (1996) provide an excellent overview of a broad range of other historic material, although primary sources will typically be provided in the text if the remains require a more detailed analysis. Prehistoric pottery from this area is examined using the broad typological definitions provided by DePratter (1979) and others.

RESULTS OF SURVEY

Introduction

As a result of this cultural resources survey one isolated find (38CT00) was identified. The archaeological site is recommended not eligible due to the lack of data sets.

The architectural survey failed to identify any structures over 50 years old which have retained their integrity.

Isolated Find 38CT00

Site 38CT00 is an isolated prehistoric projectile point stem situated on a ridge side slope. The site elevation is about 320 feet AMSL and is about 1,000 feet south of Little Beaverdam Branch. Topography in the area consists of undulating hills.

Typical vegetation in the area consists of young hardwoods with few pines interspersed, but the site itself is found on old pastureland. A central UTM coordinate for the site is E578540 N 3818659 (NAD27 datum). The site is accessible from Widow Johnson Road about 1.0 mile south of US 1.

Although shovel tests were completed at the originally

proposed 100 foot intervals, only one test (T17 ST2) was positive producing the point base. Nevertheless, eight additional shovel tests were excavated in a simple cruciform pattern at 50 foot intervals around the positive test (Figure 10). Each of these tests were negative, but revealed Lucy series soils.

The positive test produced a Late Archaic Savannah River Stemmed. This projectile point fragment was 7 mm wide at the base, had a stem length of 2 mm and a stem width of 4 mm. The point was 1.2 mm in thickness (see Coe 1964).

Site 38CT00 has not produced enough artifacts or data sets to be able to address any significant research questions. Although the find was diagnostic, it is unlikely that it can provide any additional significant information on Late Archaic

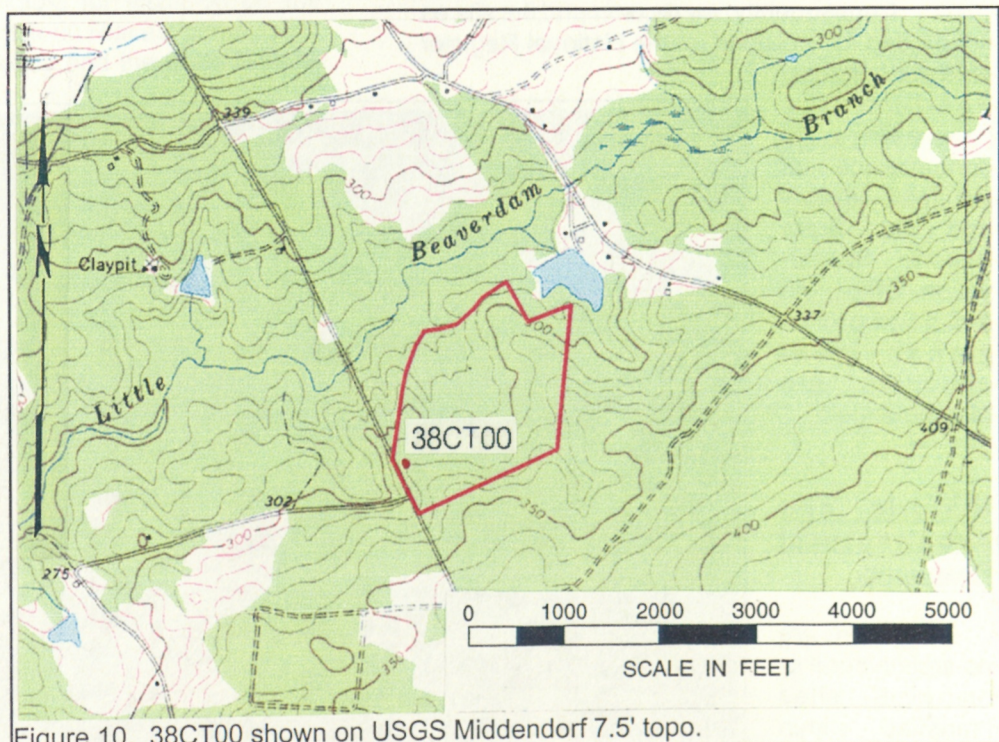


Figure 10. 38CT00 shown on USGS Middendorf 7.5' topo.

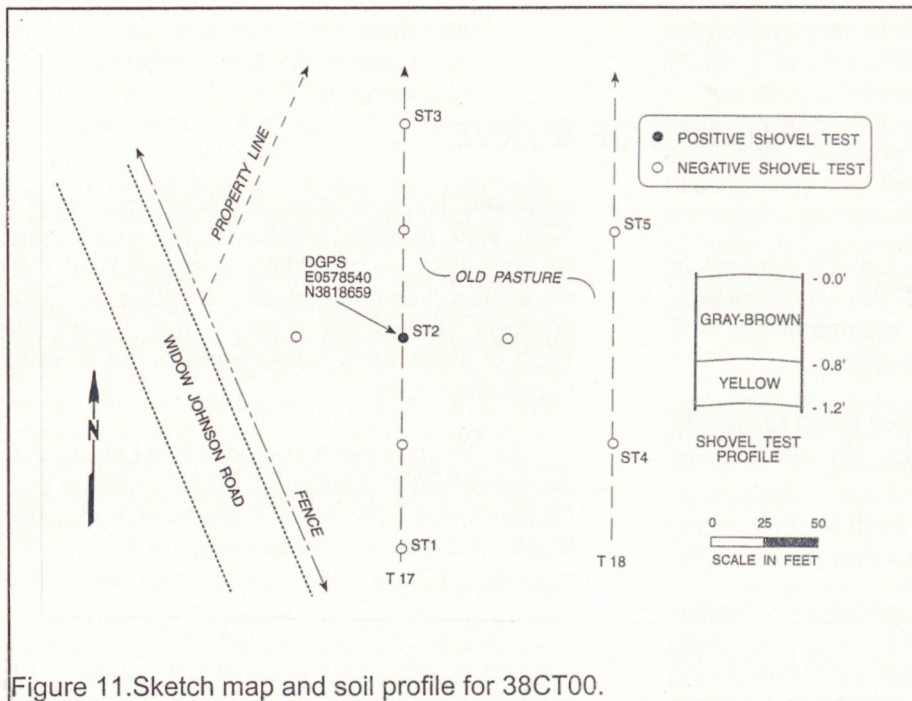


Figure 11. Sketch map and soil profile for 38CT00.

lifeways, especially in isolation of other cultural features.

Consequently, we recommend the site as not eligible for inclusion on the National Register of Historic Places. Pending the review and concurrence of the lead agency and the State Historic Preservation Office, no additional management activities are recommended.

Historic and Architectural Resources

There are no architectural or historical sites identified within the 1 mile APE.



Figure 12. View of 38CT00.

Most of the structures visible from the road in both areas appear to be modern, perhaps constructed within the past two to three decades. The remainder evidence extensive modifications and no longer retain any integrity.

CONCLUSIONS

This study involved the examination of an approximately 98.6 acre tract proposed to be used as a kaolin mine. The tract is located on Widow Johnson Road, about 1.0 mile south of US 1 south of the town of Middendorf. This work, conducted for the Brigman Company, Inc. for their client, Palmetto Brick, examined archaeological sites and cultural resources found on the proposed tract or within a 1.0 mile area of potential effect (APE). It is intended to assist the Brigman Company help their client comply with their historic preservation responsibilities.

As a result of this investigation one isolated find, 38CT00, was identified within the tract. This find represents the Late Archaic period and consisted of a single Savannah River stem projectile point. This site, however, failed to produce the number of specimens that would designate it as a site. It is therefore recommended not eligible for inclusion on the National Register of Historic Places, pending the review of the lead agency and the State Historic Preservation Office.

A survey of historic sites was conducted within a 1.0 mile APE. No structures possessing integrity were encountered.

It is possible that archaeological remains may be encountered in Area 1 during construction activities. As always, contractors should be advised to report any discoveries of concentrations of artifacts (such as bottles, ceramics, or projectile points) or brick rubble to the project engineer, who should in turn report the material to the State Historic Preservation Office, or Chicora Foundation (the process of dealing with late discoveries is discussed in 36CFR800.13(b)(3)). No further land altering activities should take place in the vicinity of these discoveries until they have been examined by an archaeologist and, if necessary, have been processed according to 36CFR800.13(b)(3).

CONCLUSIONS

The purpose of this study was to identify and evaluate the cultural resources of the Chesterfield Mine Tract. The study was conducted in two phases. The first phase was a field survey to identify and locate cultural resources. The second phase was a laboratory analysis of the artifacts recovered during the field survey. The results of the field survey and laboratory analysis are presented in the following sections.

The field survey identified a total of 15 cultural resources. These resources were located in the following areas: 1) the area around the mine entrance, 2) the area around the mine shaft, 3) the area around the mine tailings pile, 4) the area around the mine waste pile, 5) the area around the mine water tank, 6) the area around the mine pump house, 7) the area around the mine engine house, 8) the area around the mine boiler house, 9) the area around the mine blacksmith shop, 10) the area around the mine carpenter shop, 11) the area around the mine blacksmith shop, 12) the area around the mine carpenter shop, 13) the area around the mine blacksmith shop, 14) the area around the mine carpenter shop, and 15) the area around the mine blacksmith shop.

The laboratory analysis of the artifacts recovered during the field survey identified a total of 15 artifacts. These artifacts were identified as follows: 1) a blacksmith's hammer, 2) a blacksmith's anvil, 3) a blacksmith's tongs, 4) a blacksmith's bellows, 5) a blacksmith's furnace, 6) a blacksmith's bellows, 7) a blacksmith's furnace, 8) a blacksmith's bellows, 9) a blacksmith's furnace, 10) a blacksmith's bellows, 11) a blacksmith's furnace, 12) a blacksmith's bellows, 13) a blacksmith's furnace, 14) a blacksmith's bellows, and 15) a blacksmith's furnace.

The results of the field survey and laboratory analysis indicate that the Chesterfield Mine Tract contains a significant number of cultural resources. These resources are of great historical and scientific value and should be preserved for future generations.

The study was conducted by the Chesterfield Mine Tract Cultural Resources Survey Committee. The committee was composed of the following members: 1) the Chesterfield Mine Tract Cultural Resources Survey Committee, 2) the Chesterfield Mine Tract Cultural Resources Survey Committee, 3) the Chesterfield Mine Tract Cultural Resources Survey Committee, 4) the Chesterfield Mine Tract Cultural Resources Survey Committee, 5) the Chesterfield Mine Tract Cultural Resources Survey Committee, 6) the Chesterfield Mine Tract Cultural Resources Survey Committee, 7) the Chesterfield Mine Tract Cultural Resources Survey Committee, 8) the Chesterfield Mine Tract Cultural Resources Survey Committee, 9) the Chesterfield Mine Tract Cultural Resources Survey Committee, 10) the Chesterfield Mine Tract Cultural Resources Survey Committee, 11) the Chesterfield Mine Tract Cultural Resources Survey Committee, 12) the Chesterfield Mine Tract Cultural Resources Survey Committee, 13) the Chesterfield Mine Tract Cultural Resources Survey Committee, 14) the Chesterfield Mine Tract Cultural Resources Survey Committee, and 15) the Chesterfield Mine Tract Cultural Resources Survey Committee.

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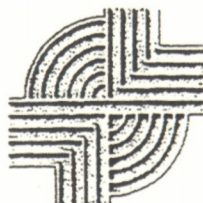
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